

*AMENDMENTS TO THE CLAIMS*

This listing of claims replaces all prior versions, and listings, of claims in the application.

1. (Currently Amended) A method of assessing a psychological or physiological state ~~including the steps of~~ comprising:

~~capturing~~ ~~capture~~ language cues that are indicative of the psychological or physiological state of a patient, wherein the language cues comprise semantic cues;

~~analyzing~~ ~~analyze~~ the language cues to determine key features;

~~producing~~ ~~produce~~ a data file containing data based upon the key features, wherein producing the data file comprises filtering the semantic cues with a stoplist;

~~submitting~~ ~~submit~~ the data file to one or more pre-taught machine learning algorithms; and

~~combining~~ ~~combine~~ output of the machine learning algorithms to determine the psychological or physiological state of the patient.

2. (Cancelled)

3. (Currently Amended) The method of claim 1 wherein the language cues ~~are~~ comprise visual cues.

4. (Currently Amended) The method of ~~claim 2~~ claim 1 wherein the semantic cues are obtained directly from text prepared by the patient.

5. (Currently Amended) The method of ~~claim 2~~ claim 1 wherein the semantic cues are obtained from speech that is converted to text.

6. (Currently Amended) The method of claim 3 wherein the visual cues ~~include~~ are derived from body language such as that comprises facial expression or ~~other~~ body ~~movements~~ movement.

7. (Currently Amended) The method of claim 1 wherein ~~the step of analyzing the language cues includes the step of~~ comprises pre-processing a text sample into blocks of words, and extracting key features ~~from semantic cues~~ by analyzing ~~a~~ the text sample to determine a frequency of occurrence of words, syllables, phonemes or other symbols in each of the blocks of words.

8. (Currently Amended) The method of claim 1 wherein ~~the step of analyzing language cues includes the step of~~ comprises extracting key features from visual cues by capturing a sequence of images or a video sample and analyzing the changes in areas of interest over time.

9. (Currently Amended) The method of claim 1 wherein ~~the step of producing the data file further includes the~~ comprises pre-processing steps and transformations of data.

10. (Currently Amended) The method of claim 9 wherein the pre-processing steps are selected from ~~one or more of:~~ the group consisting of exclusion of high frequency words; time frequency/inverse document frequency calculations; normalization; and translation to a form required for the one or more machine learning algorithms.

11. (Currently Amended) The method of claim 1 wherein the machine learning algorithms are selected from ~~one or more of:~~ the group consisting of a support vector machine; a decision tree learning algorithm; and a neural network.

12. (Currently Amended) The method of claim 1 further ~~including~~ comprising the preliminary steps of teaching the machine learning algorithms by:

combining language cues with classes of psychological or physiological disorders and symptom severity derived from clinical trials and clinical assessments to form the data file;

submitting the data file to the machine learning algorithms; and

translating the internal representation of the machine learning algorithms into symbolic rules.

13. (Currently Amended) The method of claim 12 wherein the pre-taught machine learning algorithms are pre-taught by a learning method ~~including~~ comprising analyzing language cues from patients known to have health problems and patients known not to have health problems.

14. (Currently Amended) The method of claim 12 further ~~including the step of~~ comprising providing an expert-defined health related category for learning purposes.

15. (Currently Amended) The method of claim 12 further ~~including the step of~~ comprising providing an expert-defined health related category for learning purposes wherein the expert-defined health related category is discrete.

16. (Currently Amended) The method of claim 12 further ~~including the step of~~ comprising providing an expert-defined health related category for learning purposes wherein the expert-defined health related category is a ranking on a given scale representing the severity of the health problem.

17. (Currently Amended) The method of claim 12 further ~~including the step of~~ comprising extracting internal representations of the machine learning algorithms as categories for psychiatric or physical conditions after machine learning has been completed.

18. (Currently Amended) A method of generating categories for psychological or physiological conditions ~~including the steps of~~ comprising:

filtering a collection of expert descriptions of psychological or physiological conditions with a stoplist;

~~for each expert description,~~ constructing a list of frequency occurring descriptive items for each expert description;

forming an intersection of the lists of frequently occurring descriptive terms;

submitting the expert descriptions to one or more machine learning algorithms;

using the intersection as the targets for machine learning; and

extracting internal representations of the machine learning algorithms as categories for psychological or physiological conditions after machine learning has been completed.

19. (Currently Amended) The method of claim 18 further ~~including the step of~~ comprising expanding the list with synonyms of the frequently occurring descriptive terms.

20. (Original) The method of claim 18 wherein the expert descriptions are obtained from expert psychiatrists or other experienced health practitioners.

21. (Currently Amended) An apparatus for diagnosing or assessing a psychological or physiological state of a patient comprising:

means for capturing language cues, wherein the language cues comprise semantic cues;

a processor programmed to analyze the language cues, ~~and~~ compile a data file, and filter the semantic cues with a stoplist;

one or more machine learning algorithms programmed in the processor and producing an output from the data file;

means for combining the outputs to produce an indicator of psychological or physiological state; and

display means adapted to display the psychological or physiological state of the patient.

22. (Currently Amended) A method of extracting information from a corpus of documents ~~including the steps of~~ comprising:

analyzing the corpus of documents to extract information meeting determined content criteria;

capturing language cues from the extracted information that are indicative of the psychological state of an author of the extracted information, wherein the language cues comprise semantic cues;

analyzing the language cues to determine key features;

producing a data file containing data based upon the key features, wherein producing the data file comprises filtering the semantic cues with a stoplist;

submitting the data file to one or more pre-taught machine learning algorithms;

combining output of the machine learning algorithms to determine the psychological state of the author; and

returning extracted information that meets a determined psychological state.